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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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ART UNIT	PAPER NUMBER
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DATE MAILED: 04/30/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/803,914	BROWN
Examiner	**Group Art Unit**
JOHN TWEEL	2736

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 2/9/98.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 9-28 is/are pending in the application.

Of the above claim(s)_____ is/are withdrawn from consideration.

☐ Claim(s)_____ is/are allowed.

☒ Claim(s) 9-28 is/are rejected.

☐ Claim(s)_____ is/are objected to.

☐ Claim(s)_____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The proposed drawing correction, filed on 2/12/97 is ☒ approved ☐ disapproved.

☐ The drawing(s) filed on_____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)_____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received:_____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s)._____

☐ Interview Summary, PTO-413

☒ Notice of References Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other_____

Office Action Summary

1. This Office action is in response to the amendment filed 2/9/98. Claims 9, 11, 14, 15, and 18 have been amended. Claims 20-28 have been added.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a previous Office action.

3. Claims 9-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Whyte** in view of **Shuey** [U.S. 4,766,414].

For claim 9, the communications apparatus taught by **Whyte** includes the following claimed subject matter, as noted, 1) the claimed electricity distribution network is read on both the Abstract and the specification (Col. 2, Ln. 19) that states that the invention uses existing powerline distribution carriers, 2) the claimed input and/or removal of telecommunication signals is achieved using the modems (Nos. 76 and 90) to send a telecommunication link through the existing power network, 3) the claimed main inductor is met by either winding (Nos. 20 and 22) of the power transformer arranged between a power input and a power output to the consumer's premises, and 4) the claimed coupling capacitor is met by one of the amplifying capacitors (No. 114) connected between the power input and the transmitter/receiver system (Nos. 111 and 113). However, the system, while including inductors and capacitors, does not utilize the main inductor to allow a low frequency power signal to pass through the inductor in a low impedance path from

the network to the electricity output. Also, the coupling capacitor does not allow a telecommunication signal to pass through in a path between the input and signal input/output line to attenuate low frequency components.

The power line communication interference preventing circuit taught by **Shuey** includes a tuned circuit for connection to a transmitter of a power line communication system. The tuned circuit comprises components selected to provide a low impedance path to ground for a power line communication signal of a preselected frequency. As seen especially in Figure 2 the tuned circuit portion (No. 62) includes a drain coil (No. L1) connected to ground and a feeder (No. 22) by a coupling capacitor (No. 52) as found in common power telecommunication networks. When the secondary winding (No. 72) of the transformer T1 is shorted by the shorting switch SW1, the tuned circuit provides a low impedance path through the coupling capacitor to ground for a particular frequency. The obvious advantage of this system is to prevent the receipt of power line communication messages by receivers for which the messages were not intended.

Since **Whyte** and **Shuey** both pertain to transmission networks and filters therefor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a main inductor to allow a low frequency high amplitude mains electricity power signal to pass through in a low impedance path for the purpose of preventing the reception of power line communication messages by receivers for which the messages were not intended. As for the attenuation of low frequency components, this function is inherent in a capacitor and is well known in electronic circuitry to perform such functions.

For claim 10, the claimed shunt inductor is met by either inductor of **Whyte** connected from the unidirectional couplers (Nos. 66 and 70) and ground. Also, the coupling capacitor of **Shuey** also provides shunting properties.

For claim 11, the claimed shunt capacitor is met by the capacitors connected between the stepdown transformers (Nos. 24 and 26) and ground.

For claim 12, the subject matter is merely a combination of the subject matter of the two previous rejected claims.

For claim 13, wrapping conducting material around elongated ferrite rods is but one of several commonly known methods of creating an inductance component. Many amateur electricians create inductors in such a fashion to conduct or construct electronic experiments. This information has been known for many generations as a tried and true method of constructing a reliable and useable inductor. Moreover, shunt capacitors are widely used to control excess voltage in case of a current overload in an electric circuit.

Since both **Whyte** and **Shuey** are but two examples of a power networks utilizing inductive components, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the main inductor by winding a conductor around ferrite rods for the purpose of taking advantage of a well known, common technique for constructing an inductive device.

For claim 14, the communications apparatus taught by **Whyte** includes the following claimed subject matter, as noted, 1) the claimed electricity distribution network is read on both the

Abstract and the specification (Col. 2, Ln. 19) that states that the invention uses existing powerline distribution carriers, 2) the claimed input and/or removal of telecommunication signals is achieved using the modems (Nos. 76 and 90) to send a telecommunication link through the existing power network, 3) the claimed first inductor is met by either winding (Nos. 20 and 22) of the power transformer arranged between a power input and a power output to the consumer's premises, 4) the claimed series combination of a coupling capacitor and a fuse is met by the capacitor and fuse connected between the distribution transformer (No. 26) and the aforementioned unidirectional coupler (No. 70) from the transmitter/receiver combination, and 5) the claimed second inductor is met by the inductor connected between the same coupler and ground, providing a current path when the capacitor suffers a fault condition. However, the system, while including inductors and capacitors, does not utilize the main inductor to allow a low frequency power signal to pass through the inductor in a low impedance path from the network to the electricity output. Also, the coupling capacitor does not allow a telecommunication signal to pass through in a path between the input and signal input/output line to attenuate low frequency components.

The power line communication interference preventing circuit taught by **Shuey** includes a tuned circuit for connection to a transmitter of a power line communication system. The tuned circuit comprises components selected to provide a low impedance path to ground for a power line communication signal of a preselected frequency. As seen especially in Figure 2 the tuned circuit portion (No. 62) includes a drain coil (No. L1) connected to ground and a feeder (No. 22)

by a coupling capacitor (No. 52) as found in common power telecommunication networks. When the secondary winding (No. 72) of the transformer T1 is shorted by the shorting switch SW1, the tuned circuit provides a low impedance path through the coupling capacitor to ground for a particular frequency. The obvious advantage of this system is to prevent the receipt of power line communication messages by receivers for which the messages were not intended.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 9 above.

For claim 15, the claimed shunt capacitor is met by the capacitor (No. 98) that is connected between the power output and ground.

For claim 16, the claimed series combination of a fuse and a shunt capacitor is met by the capacitor mentioned in the previous claim and the accompanying fuse connected between the power output and ground.

For claim 17, wrapping conducting material around elongated ferrite rods is but one of several commonly known methods of creating an inductance component. Many amateur electricians create inductors in such a fashion to conduct or construct electronic experiments. This information has been known for many generations as a tried and true method of constructing a reliable and useable inductor. Moreover, shunt capacitors are widely used to control excess voltage in case of a current overload in an electric circuit.

This claim is interpreted and rejected for the same rationale as is mentioned in the rejection of claim 13 above.

For claim 18, the communications apparatus taught by **Whyte** includes the following claimed subject matter, as noted, 1) the claimed electricity distribution network is read on both the Abstract and the specification (Col. 2, Ln. 19) that states that the invention uses existing powerline distribution carriers, 2) the claimed input and/or removal of telecommunication signals is achieved using the modems (Nos. 76 and 90) to send a telecommunication link through the existing power network, 3) the claimed first inductor is met by either winding (Nos. 20 and 22) of the power transformer arranged between a power input and a power output to the consumer's premises, 4) the claimed series combination of a coupling capacitor and a fuse is met by the capacitor and fuse connected between the distribution transformer (No. 26) and the aforementioned unidirectional coupler (No. 70) from the transmitter/receiver (Nos. 111 and 113) combination, 5) the claimed second inductor is met by the inductor connected between the same coupler and ground, providing a current path when the capacitor suffers a fault condition, and 6) the claimed series combination of a first fuse and a first capacitor is met by the capacitor (No. 98) and accompanying fuse connected between the power output and ground. However, while several shunt capacitors are included in the circuit configuration, none are connected at the intermediate point of an inductor comprising two generally parallel-spaced elongated ferrite rods wrapped with conductors. However, the system, while including inductors and capacitors, does not utilize the main inductor to allow a low frequency power signal to pass through the inductor in a low impedance path from the network to the electricity output. Also, the coupling capacitor

does not allow a telecommunication signal to pass through in a path between the input and signal input/output line to attenuate low frequency components.

The power line communication interference preventing circuit taught by **Shuey** includes a tuned circuit for connection to a transmitter of a power line communication system. The tuned circuit comprises components selected to provide a low impedance path to ground for a power line communication signal of a preselected frequency. As seen especially in Figure 2 the tuned circuit portion (No. 62) includes a drain coil (No. L1) connected to ground and a feeder (No. 22) by a coupling capacitor (No. 52) as found in common power telecommunication networks. When the secondary winding (No. 72) of the transformer T1 is shorted by the shorting switch SW1, the tuned circuit provides a low impedance path through the coupling capacitor to ground for a particular frequency. The obvious advantage of this system is to prevent the receipt of power line communication messages by receivers for which the messages were not intended.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 9 above.

Wrapping conducting material around elongated ferrite rods is but one of several commonly known methods of creating an inductance component. Many amateur electricians create inductors in such a fashion to conduct or construct electronic experiments. This information has been known for many generations as a tried and true method of constructing a reliable and useable inductor. Moreover, shunt capacitors are widely used to control excess voltage in case of a current overload in an electric circuit.

The claim is interpreted and rejected for the same rationale as mentioned in the rejection of claim 13 above.

For claim 19, the subject matter of the claim, that is, the two parallel-spaced elongated ferrite rods, are addressed in the rejection of the previous claim.

For claims 20, 23, and 26, the frequency recited in the specification of **Shuey** is 12.5 kilohertz. However, the specification also states that many different types of narrow band modulation techniques are suitable for use and the present invention is not limited to use with any particular frequency of signal. The selection of one megahertz from passing from the input to the output is a matter of design best left to the user or constructor of the particular network to maximize and specialize the frequency of which the device is to prevent.

For claims 21, 24, and 27, the main inductor of **Shuey** has an inductance of at least 10 microhenries, 7 millihenries.

For claims 22, 25, and 28, the voltage produced across the main inductor when the current is conducted is not specifically recited to in the specification of **Shuey**. However, it is understood that the transmitter that is utilized in association with the present invention can be virtually any type of transmitter that is suitable for imposing a signal onto the secondary winding of a transformer. The voltage and current can vary broadly between different transformers. Also, the specification states that the bus voltage delivered to the feeder (No. 22) is stepped down by a transformer (No. 24) for a plurality of remote consumer locations. A voltage of one volt when

conducting one hundred amperes of current is not an unusual amount to measure in typical consumer systems.

4. Applicant's arguments with respect to claims 9-19 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication should be directed to Examiner John Tweel at telephone number (703) 308 7826. The examiner can normally be reached on Monday-Thursday, 8:30a-5:00p. The examiner can also be reached on alternate Fridays.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on (703) 305 4717. The fax phone number for this group is (703) 305 3988.

JEFFERY A. HOFSASS
SUPERVISORY PATENT EXAMINER
GROUP 2700

John Tweel

April 26, 1998